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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
Donald E. Mabe Jr., et al. ) Group Art Unit: 3711  
 ) Examiner: Mitra Aryanpour  
Application Serial No.: )  
10/680,535 )  
 )  
Filed: October 7, 2003 )  
 )  
Title: Billiard Equipment )

Mail Stop Appeals Brief-Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**REPLY BRIEF**

This is a Reply Brief to the Examiner's Answer dated February 7, 2006, in an appeal from the rejection set forth in the Final Rejection dated May 16, 2005, (hereinafter "the Final Rejection") in the above-identified application. Appellant respectfully submits that the rejection in the Final Rejection was made in error, and that this rejection should be reversed for the reasons set forth below.

The Appellant does not wish to request an oral hearing and thus issuance of a decision on based on the written record is solicited.

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On April 6, 2006

By Catherine A Rose

Signature Catherine A Rose

**I. The Requirement that the Distal Portion of the Cue Comprise Substantially More Than Half of the Weight of the Cue (Independent Claim 15)**

On page 7, lines 5-8 of the Examiner's Answer, the Examiner took the position relative to the rejection of claims 15-27 under 35 U.S.C. §103(a) that,

"Morse does not need to disclose a specific dimension for the cue. Furthermore, whether the drawings are to scale or not is moot."

These statements are incorrect.

According to MPEP §2143, for a rejection under 35 U.S.C. §103(a):

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Independent claim 15 requires that the distal portion of the billiard cue comprises substantially more than half of the weight of the cue. Thus, to establish a case of *prima facie* obviousness based on U.S. Patent no. 298,111 (hereinafter "Morse") in view of U.S. Patent no. 1,324,789 (hereinafter "Bey"), the Examiner must show that the distal portion of the cue of Morse or Bey comprises substantially more than half of the weight of the cue. The Examiner relies on Morse for this purpose.

Thus, the above-quoted Examiner's statement is incorrect because it is necessary to determine which components form the distal portion of the cue of Morse, in order to determine whether the substantially more than half of the weight of the cue is comprised in the distal portion.

This is because Morse does not explicitly teach this feature of the present invention, as admitted by the Examiner at page 9, lines 3-4 of the Examiner's Answer. Thus, since Morse does not explicitly teach this feature, the Examiner must show, by some disclosure in Morse, what components form the distal half of the cue of Morse since otherwise no determination can be made as to whether the distal portion of the cue of Morse contains substantially more than half of the weight of the cue.

Since Morse does not expressly indicate what components form the distal half of the cue, the Examiner must resort to the drawings to determine this. As a result, the fact that the drawings are not to scale is relevant since this means that it is not possible for the Examiner to demonstrate which components of the cue of Morse form the distal portion. Therefore, the Examiner cannot establish a case of *prima facie* obviousness based on Morse since the Examiner cannot show that the distal portion of the cue of Morse comprises substantially more than half of the weight of the cue.

The above-quoted statement of the Examiner apparently follows from the Examiner's misconception that,

"The structure of the Morse cue is capable of holding weights along its length. The end-user can choose to distribute the weight in any suitable manner, depending on its intended purpose and the desired end result."

See page 9, lines 5-7 of the Examiner's Answer.

In fact, the structure of the Morse cue is not capable of holding weights along its length. This is because the Morse cue does not include weight pockets in parts C, D and E which form the distal portion of the cue of Morse. See Figures 1, 3-8 and 12-13 of Morse. Thus, the only way that the weight of the Morse cue can be varied is by addition of weights to parts A and B of the proximal portion of the Morse cue. As a result, weight cannot be added to the distal portion (parts C, D and E) of the Morse cue and thus, contrary to the Examiner's assertion, the user of the Morse cannot distribute the weight of the Morse cue in any manner

In this regard, the Examiner also takes the position that,

“As indicated above, Morse teaches any combination of weight can be used. Therefore, one may choose not to include weight in the proximal portion (part A), meaning the proximal portion would be filled with screw plugs (k). The lightweights [sic] (i) can be positioned in the center section and the heavy weights (h) positioned in the distal portion of the cue.”

See page 9, lines 8-11 of the Examiner’s Answer.

First, as noted above, Morse nowhere teaches or suggests positioning weights in the distal portion (parts C, D, E) of the cue and, according to the drawings of Morse, no weight pockets are provided in parts C, D and E of the distal portion of the Morse cue to receive such weights. Thus, contrary to the Examiner’s assertion, there is no place for heavy weights *h* to be positioned in the distal portion of the Morse cue.

The Examiner’s allegation that Morse teaches a skilled person not to include weight in the proximal portion of the cue is also incorrect and contrary to the teachings of Morse. More specifically, Morse states that,

“It will be seen that any desired number of the heavy weights *h* may be used, the remainder of the space being filled with the light weights *i*, and the screw plugs *k* serve to clamp and hold these sections, so that they will not shake about when in use...” (emphasis added)

See page 1, lines 84-87 of Morse.

Thus, it is clear from Morse that it is the intention to fill the entire space of the weight pockets with weights. Moreover, Morse does not even contemplate leaving out the weights entirely, as the Examiner appears to suggest. Finally, Morse teaches away from leaving out some of the weights since, as seen in the quote above, Morse does not want the weights to shake about when in use. As a result, Morse would not leave out some of the weights since then the remaining weights would not fill the entire space of the weight pockets and the weights would shake about when in use.

Although Morse does contemplate that different numbers of weights can be employed, this is a reference to the fact that the size of the weights can vary and not a suggestion that some of the weights can be left out. In this regard, Morse also states that,

“I have sometimes made the weights whole – *i.e.*, with but one weight in a pocket – but I prefer to employ the heavy and light weights.”

See page 1, lines 90-93 of Morse. From the combination of these teachings of Morse, it is clear that the reference to varying the number of weights does not suggest that space in the weight pockets should be left empty, but rather that the weights can be made in different sizes, so long as the number of weights of the different sizes is chosen so that the entire space in the weight pockets is filled.

Thus, Morse does not disclose placement of substantially more than half of the weight of the cue in the distal portion of the cue. Also, the cue structure of Morse does not provide for placement of weights in the distal portion. Accordingly, there is no teaching or suggestion to provide this feature of claim 15 in the cue of Morse.

## **II. The Requirement that the Cue Have a Substantially Uniform Diameter (Claims 16-18)**

The Examiner provides a discussion of cue diameter at page 9, line 21 to page 11, line 5 of the Examiner’s Answer. However, the Examiner never addresses the appellant’s most important argument, namely, that since the Examiner has the burden of presenting a case of *prima facie* obviousness, the Examiner must present some evidence or teaching of a cue design wherein the diameter of the cue varies less than 10% (claim 16), less than 5% (claim 17) or less than 2% (claim 18). The Examiner has not presented any evidence whatsoever that any prior art cue meets, or comes close to, the requirements of claims 16-18 of the present application (see e.g. page 11, line 21 to page 12, line 3 of the Examiner’s Answer).

Rather, the Examiner’s statements in the Examiner’s Answer tend to show that the opposite is true. More particularly, the Examiner discusses several conventional cue sticks on page 10 of the Examiner’s Answer. In one case, at page 10, lines 6-8, the Examiner discusses a conventional 58” cue stick and indicates that, at the butt end, the cue stick has a diameter of 1.25”, and at the tip end, the cue stick has a diameter of 0.515”. Thus, putting the variation in the

diameter of this cue in the terms of a percentage variation, as in claims 16-18, the variation in the diameter of an exemplary conventional cue stick, according to the examiner, can be expressed as follows:

$$(1.25'' - 0.515'') = \text{a variation of } 0.735''$$

$$0.735''/1.25'' = \text{a percent variation of } 58.8\%.$$

This is clearly outside the ranges of claims 16-18 of the present application which require variations of less than 10%, less than 5% and less than 2%, respectively. Thus, the Examiner has admitted that conventional cues do not meet the requirements of claims 16-18.

Finally, the Examiner alleges at page 11, lines 4-5 of the Examiner's Answer that the dimensions of claims 16-18 of the present application are considered an obvious matter of design choice. Though this might be true if the claimed ranges fell within or near the amount of variation that is employed in conventional cues, this is clearly not the case for claims 16-18 of the present invention wherein the claimed ranges fall far outside what is typical of conventional cues, based on the statements of the Examiner in the present record, as discussed above. Clearly, it would not be an obvious matter of design choice to change the percentage variation in the diameter of a cue from 58.8% as in the conventional cue proposed by the Examiner, to a percentage variation below 10%, as claimed. This is because this would amount to a very substantial change in the cue which would significantly affect not only the diameter, but also the weight and feel of the cue.

Moreover, the diameter of the cue, as claimed in claims 16-18, is significant, as is pointed out on page 6, lines 10-17 of the application as originally filed and explained in detail in the Appeal Brief. Specifically, the present appellant has found that, by going against conventional wisdom and reducing the variation in the diameter of a cue along the entire length, this facilitates maintenance of a substantially constant geometric angle throughout the stroke of the ball. In other words, by maintaining the cue at a substantially constant diameter, the angle of the cue relative to the ball is less likely to change during the stroke as the cue passes through the guiding hand of the

user. This is because the cue presents a substantially uniform diameter to the guiding hand, thereby reducing the need for the user to adjust the grip on the cue to accommodate the significant variations in diameter found in conventional cues.

Therefore, the fact that the variation in the diameter presents a significant technical benefit also demonstrates that it is not merely a matter of design choice, but rather that it is a significant technical feature of the present invention which is unobvious over the cited prior art.

**II. Releasably Securing the Cue Tip to the Cue by Use of an Elastomeric Material Sized to Fit Snugly Over the Distal End of the Cue (Claims 24-27)**

On page 11, lines 6-14 of the Examiner's Answer, the Examiner discusses the appellant's assertion, relative to claim 24, that Morse does not teach or suggest releasably securing the cue tip to the cue by use of an elastomeric material sized to fit snugly over the distal end of the cue. This is an important feature of the invention since it allows for easy changing of the cue tips, as well as inexpensive manufacture of the releasable cue tips since they can be fabricated as a single part and from a single material.

Specifically, the Examiner relies on the fact that the tip of Morse is attached to the distal end of section E by a screw. The Examiner then asserts that,

"It is noted that the claim as presented does not claim a particular method of releasably attaching the tip to the distal end, ..."

See page 11, lines 11-12 of the Examiner's Answer.

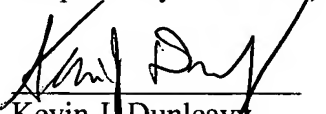
It is apparent from this statement that the Examiner has referred to the wrong claim (i.e. claim 23), rather than the claim for which the appellant made this argument (i.e. claim 24). Claim 24 expressly requires that, "...said elastomeric material being sized to fit snugly over the distal end of said billiard cue to releasably secure said tip to the distal end of said billiard cue." Thus, in fact, the claim, as presented, does claim a particular method of releasably attaching the tip to the distal end, contrary to the Examiner's assertion. Moreover, the claimed method does not

encompass a screw attachment and is significantly different than a screw attachment since it makes it possible to fabricate the tip as one part (i.e. elastomeric tip), rather than as two parts (i.e. tip and screw), as in Morse, and from one material (i.e. elastomeric material) rather than two different materials (i.e. elastomeric tip and metal screw), as in Morse.

Finally, at page 11, line 15 of the Examiner's Answer, the Examiner alleges that the appellant asserts that Morse does not show an elastomeric tip. This is an incorrect characterization of appellant's argument. Rather, the correct characterization of the appellant's argument is that Morse does not show an elastomeric tip wherein the elastomeric material is sized to fit snugly over the distal end of said billiard cue to releasably secure said tip to the distal end of said billiard cue. The Examiner has apparently overlooked this key point of appellant's argument in the Examiner's Answer and thus has not demonstrated that Morse shows this feature of claim 24 of the present application.

Accordingly, for these additional reasons, Appellant respectfully submits that each of the rejections should be reversed, and that the pending claims should be allowed. Such a decision is respectfully solicited.

Respectfully submitted,

  
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